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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,264

05/09/2007

Yasutaro Seto

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EDWARDS ANGELL PALMER & DODGE LLP

P.O. BOX 55874

BOSTON, MA 02205

EXAMINER

JOYNER, KEVIN

ART UNIT

PAPER NUMBER

1773

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,264	SETO ET AL.	
	Examiner	Art Unit	
	KEVIN C. JOYNER	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8 and 12-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-9 and 12-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-8, 12-23 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aibe et al. (U.S. Patent No. 5,288,306) in view of Toshihiko (Japanese Document No. JP 05-015576).

With regard to claims 1, 12 and 18 Aibe discloses a deodorizing filter comprising two separate halves (88 & 89), a first activated carbon deodorizing filter (88) being alkali regulated so as to intrinsically have a high-pH environment (column 5, line 25 to column 6, line 15) forming a first half (Figure 12) and a second activated carbon deodorizing filter (89) with phosphoric acid regulated so as to intrinsically have a low-pH (column 6, line 55 to column 7, line 13) environment forming a second half (Figure 12). Aibe does not appear to disclose that one or both deodorizing filter(s) is a filter of a cobalt phthalocyanine complex and an iron phthalocyanine complex supported on an active carbon filled paper, wherein one of said filters is alkali regulated with sodium hydroxide to have a high pH environment. Toshihiko discloses chemical solutions utilized in deodorizing filters with active carbon filled papers (paragraphs 1 and 58). The reference continues to disclose that the chemical solution is one that includes a cobalt

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phthalocyanine complex or an iron phthalocyanine complex (paragraphs 13-16) that is alkali regulated with sodium hydroxide (concerning claims 26-28) so as to have a high pH environment (paragraphs 17, 56, 76 and 77) in order to create a deodorizing filter that is effective in humid environments against methyl mercaptan (paragraphs 4-6 and 97). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify one or both of the filters of Aibe to include a cobalt phthalocyanine complex or an iron phthalocyanine complex that is alkali regulated with a hydroxide so as to have a high pH environment in order to create a deodorizing filter that is effective in humid environments against methyl mercaptan as exemplified by Toshihiko.

Claims 4, 5, 7, 13, 14, 16, 19, 20 and 22 further require that the weight ratio of the phthalocyanine complex/iron phthalocyanine be between 95/5 to 55/45 and the amount of the complexes be in the range of 200 to 20,000 μ g with respect to 1 g of the paper. It would have been well within the purview of one of ordinary skill in the art to optimize weight ratios of said complexes and the amount of said complexes in order to maximize the deodorization effects against foul smelling materials such as hydrogen sulfide and mercaptan, as such are considered result effective variables to be optimized through routine experimentation. Only the expected results would be attained. (See MPEP 2144.05 [II]).

Claims 6, 15 and 21 further require that the pH of the high-pH environment is between 7.5-12.0 (as disclosed by Toshihiko; paragraph 27) and the pH of the low-pH environment is 1.5-5.0. The deodorizing filter of Aibe will produce a filter creating a high

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and low pH environment as set forth above and disclosed in columns 4-7. Nonetheless, for further prosecution, it would have been well within the purview of one of ordinary skill in the art to optimize the high and low pH environment in the filter of Aibe in order to maximize the deodorization results against an acid and alkaline substance simultaneously. Only the expected results would be attained. (See MPEP 2144.05 [II]).

Claims 8, 17 and 23 further require that the active-carbon-filled paper contain active-carbon at a content of 40 to 80 mass %. As set forth in column 5, lines 1-8 of Aibe, said active-carbon-filled paper contains a content of at least 30% active-carbon or more. As such, it would have been well within the purview of one of ordinary skill in the art to optimize the amount of active-carbon in said filter paper in order to maximize the efficiency and effectiveness of the filtering process. Only the expected results would be attained. (See MPEP 2144.05 [II]).

3. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aibe et al. (U.S. Patent No. 5,288,306) in view of Toshihiko (Japanese Document No. JP 05-015576) as applied to claim 1 above, and further in view of Ishii et al. (U.S. Patent No. 5,830,414).

Aibe is relied upon as set forth above. Aibe does not appear to disclose that both filters have a quaternary ammonium salt. Ishii discloses a deodorizing filter comprising a first or second filter provided with one of an alkali or a phosphoric acid (column 2, lines 11-68). The reference continues to disclose that said filter is further provided with a quaternary ammonium salt in order to provide antibacterial properties for said filter

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(column 3, lines 10-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the filters of Aibe to include a quaternary ammonium salt on said filters in order to provide antibacterial properties for said filter as exemplified by Ishii.

4. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aibe et al. (U.S. Patent No. 5,288,306) in view of Toshihiko (Japanese Document No. JP 05-015576) as applied to claim 1 above, and further in view of Lindhe (U.S. Patent No. 5,944,878).

Aibe is relied upon as set forth above. Aibe does not appear to disclose that the filters have hydrazine and polyvinylamine compounds. Lindhe discloses a deodorizing filter comprising a set of filters that are provided to remove malodorous gases from the air (column 3, lines 5-25). The reference continues to disclose that the filter is provided with hydrazine derivatives and polyvinylamine compounds (column 2, lines 55-68), or at least a known equivalent alternative thereof (column 4, lines 3-10), in order to remove contaminating gases such as formaldehyde (column 2, lines 55-68). As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the filters of Aibe to include hydrazine and polyvinylamine compounds in said filters in order to remove contaminating gases such as formaldehyde as exemplified by Lindhe.

Response to Arguments

5. Applicant's arguments, see pages 5-9 of the Remarks, filed on November 18, 2010, with respect to the rejection(s) of claim(s) 1, 4-9 and 12-28 under 35 U.S.C 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Aibe et al. (U.S. Patent No. 5,288,306) and Toshihiko (Japanese Document No. JP 05-015576).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN C. JOYNER whose telephone number is (571)272-2709. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin C Joyner/
Examiner, Art Unit 1773